

3.13 Hazardous Waste

3.13 Hazardous Waste

3.13.1 Studies and Coordination

This section summarizes information contained in the *SR 509/South Access Road EIS Discipline Report: Hazardous Waste* (WSDOT February 2000), *SR 509/South Access Road EIS: South Airport Link* (October 2001), *Update to the Existing SR 509 Supplement 5 Hazardous Waste Discipline Report* (IT Corporation October 2001), and *Draft SR 509/South Access Road EIS: I-5 Corridor Hazardous Waste Discipline Report* (IT Corporation November 2001). These reports are included in this FEIS by reference. For this analysis, the project area is defined as the area within one mile of the proposed build alternatives.

Environmental Data Resources, Inc. (EDR), conducted database searches of all available federal, state, and local environmental regulatory databases sites within 1.0 mile of the proposed project alternatives. Database searches for the proposed SR 509 freeway extension and South Access Road were conducted in April 1997 (EDR 1997). A review of U.S. EPA Region 10 Internet regulatory files was conducted in November 1998 and December 1999 did not reveal any changes from the listing provided by EDR. Washington State Department of Ecology (Ecology) files were reviewed in September 2001 to update the database information. Database searches were conducted for the South Airport Link design options in June 2000, and for the I-5 improvements in October 2001.

An historical review of the project area in the vicinity of the I-5 improvements was conducted in September 2001 using historical aerial photos, historical topographic maps, and Kroll maps. Information was also obtained from the *Real Estate Services/Environmental Affairs Office Potentially Contaminated Property Inventory Final Report* (WSDOT May 1997). This inventory report identifies properties that are currently owned by WSDOT and are under Real Estate Services management that have a potential for contamination. Further information was obtained from a Port of Seattle report completed in 1996 that describes the underground storage tank (UST) status of properties purchased as part of the Sea-Tac Airport Noise Remedy Program.

Validation of the list of known or suspected contamination sites was conducted by review of Ecology enforcement and regulatory files and telephone interviews with representatives from Ecology, Port of Seattle, City of Des Moines, Des Moines Fire District, and the Masonic Church. In addition, site visits were conducted to areas of concern to confirm exact locations of properties and proximity to other sites.

3.13.2 Affected Environment

Land Use

Land use in the project corridor has generally remained the same for the last 50 to 60 years. Commercial properties tend to be located in the vicinity of interchanges along I-5 and along SR 99/Pacific Highway South, with residential properties located to the west and east of the commercial corridor.

One of the largest facilities in the area is Sea-Tac Airport, which is a focal point for construction because of its economic importance in the Pacific Northwest. The airport, which opened in 1944, includes passenger and cargo terminals, baggage conveyance, and aircraft maintenance and fueling facilities.

Physical Environment

Geology and soils in the project area are described in Section 3.4 of this FEIS. Three major aquifers underlie the project area. These include the Vashon advance outwash and two older outwash deposits. The main water table is usually encountered 60 to 90 feet bgs. Perched groundwater as shallow as 9.8 feet bgs has been encountered. Noncontinuous zones of perched groundwater have been encountered in the southeast portion of the airport property at a depth ranging from ground level to 50 feet bgs. Free-floating petroleum products have been measured in monitoring wells in the area of the airport. The amount of free-floating product has fluctuated over the multiple years of monitoring.

List of Sites with Known or Suspected Contamination

Based on the research described above, 45 sites of known or suspected contamination were identified in and along the alignment of the proposed project alternatives (Table 3.13-1). Sites in the vicinity of the proposed SR 509 freeway extension are identified with a number. Sites in the vicinity of the South Airport Link are identified with a number preceded by the letter "S," and those along the I-5 corridor are identified with a number preceded by the letter "I."

**Table 3.13-1
List of Potential or Known Contaminated Sites**

Site No.	Site	Address	Level of Contamination
2	Battery Power Systems, Inc.	2367 South 200th Street	Substantially contaminated
6	Exxon #7-3287/BP #3124	2841 South. 188th St./18803 International Blvd.	Reasonably predictable
7	Foreman's Welding	18451 Des Moines Memorial Dr.	Reasonably predictable
8	Hertz Corp. Car Rental	18625 Des Moines Memorial Dr.	Reasonably predictable
14	Olympic Fuel Tank Farm	2600 Block of South 188th Street.	Reasonably predictable
18	S. 192nd Street Residential Property	1112 South 192nd Street	Reasonably predictable
21	Tech-Marine Enterprises	Near 19265 Des Moines Memorial. Dr.	Reasonably predictable
24	Alaska Airlines Gold Coast Center	20833 International Blvd.	Reasonably predictable
25	Helen's Auto Sales	20848 Pacific Highway South	Substantially contaminated
26	Pacific Auto Brake & Muffler	20856 Pacific Highway South	Substantially contaminated
27	Super Mechanics	21027 Pacific Highway South	Reasonably predictable
28	VIP Sports Bar & Restaurant	20842 Pacific Highway South	Reasonably predictable
29	Alamo Rent-A-Car	20636 Pacific Highway South	Reasonably predictable
30	Unocal #3964	20658 Pacific Highway South	Reasonably predictable
31	PAC Center	2407 South 200th Street	Reasonably predictable
32	Budget-Rent-A-Car of WA-OR	19030 28th Avenue South	Reasonably predictable
33	Sea Tac Gull #263	18812 Pacific Highway South	Reasonably predictable
S-1	Pan Am Fuel Farm	Sea-Tac Airport	Reasonably predictable
S-2	Northwest Airlines Tank Farm	18211 Air Cargo Rd.	Substantially contaminated
S-3	Air Cargo Road	Sea-Tac Airport	Substantially contaminated
S-4	Delta Fuel Farm	Sea-Tac Airport	Reasonably predictable
S-5	Former sewage treatment plant/Masterpark ^a	18220 International Boulevard	Reasonably predictable
S-6	My Place Tavern & Restaurant/West Coast Gateway Hotel ^a	18415 Pacific Highway South/ International Boulevard ^b	Reasonably predictable
S-7	Sharp's Roaster and Ale House	18427 Pacific Highway South/ International Boulevard ^b	Reasonably predictable
S-8	Shell Oil Service Station (also part of Budget Rent-A-Car of Washington)	18443 Pacific Highway South/ International Boulevard ^b	Reasonably predictable
S-9	Various car rental businesses/Budget Rent-A-Car of WA ^a	18445 Pacific Highway South/ International Boulevard ^b	Reasonably predictable

**Table 3.13-1
List of Potential or Known Contaminated Sites**

Site No.	Site	Address	Level of Contamination
S-11	Swept Wing Inn & Office Building/Airport Plaza Hotel & Mogul Garden Restaurant ^a	18601 Pacific Highway South/ International Boulevard ^b	Reasonably predictable
S-12	Liquor Store	18617 Pacific Highway South/ International Boulevard	Reasonably predictable
S-13	Mini-Mart	18615 Pacific Hwy South/ International Boulevard	Reasonably predictable
S-14	Budget Rent-A-Car of WA-OR	2806 South 188th Street	Reasonably predictable
I-4	Kent Highlands Landfill	Military Rd. and SR 516	Reasonably predictable
I-5	Kings Dry Cleaners	23416 Pacific Highway South	Reasonably predictable
I-6	Park of the Pines Church	23458 30th Avenue South	Reasonably predictable
I-7	Midway Auto Body	23454 30th Avenue South	Reasonably predictable
I-9	Murray's Collision Center	23608 30th Avenue South	Reasonably predictable
I-14	Highline Water District	23828 30th Avenue South	Reasonably predictable
I-15	Midway Sewer District	3030 South 240th Street	Reasonably predictable
I-16	King County Housing Authority	South 239th Street and Military Rd.	Reasonably predictable
I-17	City of Kent Pump Station 8	South 240th and 35th Avenue South	Reasonably predictable
I-22	Linda Heights Park Pump Station	3406 South 248th Street	Reasonably predictable
I-23	Gresham Transfer, Inc.	24300 Pacific Highway South	Reasonably predictable
I-27	Midway Landfill	24808 Pacific Highway South	Substantially contaminated
I-34	Circle K Gasoline Station	27121 Military Road S.	Reasonably predictable
I-41	76 Gasoline Station	2535 South 320th Street	Reasonably predictable
I-46	Puget Sound Church of God Holiness	22809 Military Road South	Reasonably predictable
	Residential Displacements	Varies by Alternative	Reasonably predictable

^a Property name provided in chronological order, beginning with the oldest available name and ending with the current property name.

^b All known street names provided for the historic and current property addresses.

Using *Guidelines for Preparing Hazardous Waste Discipline Reports* (WSDOT and FHWA 1997), sites on the list are defined as being reasonably predictable or substantially contaminated. Reasonably predictable means that the site is or is likely to be contaminated, but the cost estimates for cleanup using best engineering methods can be reasonably estimated without sampling. Substantially contaminated includes several categories or types of contamination: (1) the site might have a potential for being contaminated with known or unknown contamination, but further investigation, including limited sampling, needs to be completed before cost estimates can be established; (2) the site is, or potentially might be, so contaminated as to create a substantial cost liability for WSDOT in acquisition or construction. In this case, where sampling reports are not available, limited sampling is necessary to define the type and extent of contamination. Four situations typically fit this latter category of “substantially contaminated:”

- The site area is large.
- The chemical is expensive or difficult to treat.
- There is a long history of industrial usage.
- There is a high potential for impact on groundwater sources.

The six sites identified as “substantially contaminated” include Air Cargo Road at the Sea-Tac Airport (Site S-2); Northwest Airlines Inc. Tank Farm at 18211 Air Cargo Road (Site S-3); Battery Power Systems Inc. at 2367 South 200th Street (Site 2); Helen’s Auto Sales at 20848 Pacific Highway South (Site 25); Pacific Auto Brake & Muffler at 20856 Pacific Highway South (Site 26); and Midway Landfill at 20848 Pacific Highway South (Site I-27). Details of these sites and those identified as “reasonably predictable” have been described in the various discipline reports identified in Section 3.13.1.

3.13.3 Environmental Impacts

Alternative A (No Action)

No sites of known or potential contamination would be affected by the No Action Alternative. Associated hazardous waste impacts would be limited to the potential for release of fuel or motor oils from equipment used during routine maintenance of existing roads. Increased future traffic congestion under the No Action Alternative could increase the potential for hazardous materials spills in the area.

Impacts Common to All Build Alternatives

The probability of encountering contamination would be high regardless of the build alternative. The level of involvement with hazardous materials depends on the alternative. Impacts fall into the categories of general construction impacts, impacts on public health, and operational impacts.

These impacts would be similar for all sites, regardless of the build alternative, and are discussed below.

Construction Impacts

General construction impacts would occur regardless of the build alternative. The general types of construction impacts as well as any specific impacts are discussed below.

Building Demolition Debris, Asbestos, and Lead-Based Paint

Each of the build alternatives would require the acquisition of additional commercial and residential properties. In addition to regular building debris from demolition, the acquisition of residential and commercial properties would pose the risk of also acquiring household hazardous waste such as pesticides, fertilizers, solvents, fuels, and leftover lead-based paint. This waste, along with the regular building demolition debris, would need to be removed, tested, and disposed of following state, federal, and local regulations.

The most likely source of asbestos-containing materials would be residences because of the age of the buildings and the common use of asbestos in pre-1978 construction. Materials that often contain asbestos in residential buildings include floor tiles, counter tops, and roofing materials. Commercial buildings can also contain a major level of asbestos contamination, often in association with insulation for the heating and cooling system or gaskets in boilers.

Lead-based paint is resistant to abrasion and commonly found in the paint on door and window jams of residences built prior to 1978. Many commercial buildings might contain lead-based paint, because it was popular for its longevity and resistance to abrasion.

Contaminated Soil

Each of the build alternatives could require acquisition of sites that contain contaminated soil or are adjacent to sites that contain contaminated soil that might have migrated into the proposed roadway right-of-way. Soil contamination in the vicinity of the proposed project could include gas, oil- and diesel-range petroleum hydrocarbon, solvents, and heavy metals (including lead) in the vicinity of automotive service and fueling stations and dry cleaners, as well as potential heating oil contamination at residential and commercial properties. Jet A fuel and possibly AvGas could be encountered in the vicinity of the airport. Municipal solid wastes could be encountered in the soil excavated from Midway Landfill as part of the I-5 improvements.

All of these contaminants require special handling, treatment, and disposal. Contaminated soil must be removed and tested before treatment or disposal at approved facilities.

Contaminated Groundwater

Contaminated groundwater that might be encountered during excavation or during dewatering would require special handling prior to proper disposal. Perched layers of groundwater are common for all the build alternatives. Exposing a perched groundwater layer might create a migratory route for contamination already in the groundwater or surrounding soil, as well as for any contamination that may be introduced into the exposed groundwater.

Worker Protection

Exposure of workers to hazardous wastes would be more likely than exposure to the public because of workers' proximity to hazardous materials and wastes during construction operations. The most common materials that a worker might be exposed to would be petroleum-based products such as fuels and hydraulic fluids. The common routes of exposure would be inhalation, ingestion, and skin contact. Petroleum products could cause damage to the eyes, exposed skin, or lungs. Use of regular personal protective equipment (PPE) and proper hygiene would reduce the risk of exposure. Conveyance pipes containing product (from gas stations, the airport, or other unknown sources) might still be buried along the alternative alignments, creating an exposure risk. Air quality (and associated health concerns) could be affected as a result of disturbing volatile substances during construction.

Encountering unanticipated contamination in both soil and groundwater could expose workers to potential hazardous conditions. Proper training in the use of spill prevention materials and standard operating procedures in the event of a spill from an unanticipated source would be necessary to protect worker health. The most likely source of unknown contamination for this proposed project would be petroleum-based materials and wastes.

Underground Storage Tanks

USTs would create the greatest risk when an unknown tank would be encountered during excavations because of the explosion hazard and the potential of creating a spill if the tank were ruptured. Vapors trapped within the tank might reach explosive limits and cause an explosion when ignited by a spark or some other incendiary device like a cigarette.

Air Quality

Construction activities might affect air quality. Common air contaminants would include dust, vapors, and fire. Dust contaminated with petroleum-based products or other contaminants and petroleum vapors might be released

during large excavations. Dust would create the most likely source of air quality problems for the build alternatives.

Vapors may occur within a confined space during construction of a tunnel or covered structure, depending on the manner of construction. An explosion hazard and a low oxygen hazard exist in these areas if contaminated soil, groundwater, or both are present. An open excavation can also create a hazard similar to a confined space if gases collect in the breathing zone.

Storm and Surface Water Contamination

The most likely risk for storm and surface water contamination would be from runoff from stockpiles and open excavation areas. Additional details are provided in Section 3.6, *Water Quality*.

Public Health Impacts

Public health concerns related to hazardous wastes would fall into two categories: (1) public perceptions of harm, and (2) actual impacts on human health resulting from construction activities. The public has a heightened awareness of potential impacts on health from contaminated sources. Summaries of public complaints contained in Ecology's Environmental Report Tracking System (ERTS) exemplify the public's concerns for health and well-being when real or perceived contamination is involved. A good public relations program is the best way to address this from a public health concern.

Public health impacts from construction would be related to exposure to a release of hazardous materials. A spill of materials brought onsite or encountered during construction, including dust, might expose the public to hazardous substances that pose a health risk. The most likely type of material that might be released would be a petroleum-based product, such as fuels and lubricants. The most likely route of exposure to the public would be through inhalation and direct contact with the skin. Jet A fuel is the most likely hazardous material that would be encountered during construction in the vicinity of Sea-Tac Airport. Jet A fuel is refined kerosene, a hydrocarbon solvent. An uncontrolled burn of petroleum-based products could cause short-term and long-term health effects, especially for people with respiratory and other health problems. Inhalation exposure symptoms range from nausea and loss of muscle coordination to kidney damage.

Another path of exposure would be encountering unknown contamination during construction. The most likely routes of exposure would be through the air and surface water. The greatest danger here would be due to the unknown nature of any contaminants that might be encountered. Spill prevention materials and careful work would be key to preventing a release that might endanger the public.

Operational Impacts

Construction of the proposed project would improve traffic flow in the project area. This would ultimately serve to reduce the risk of accidents, including those involving hazardous substances, thereby decreasing the amount of harmful substances that could enter soil and water resources.

Impacts of hazardous materials and waste from normal operations would primarily be associated with runoff of contaminants entrained in stormwater. Contaminants likely to be in stormwater runoff include fuel, lubricants, heavy metal compounds from tires, and automobile engine coolants such as ethylene glycol. Stormwater and water quality treatment facilities would be designed to collect and retain pollutants from traffic operations. Additional operational impacts might include herbicides used as part of a roadside vegetation management program. Operational impacts related to hazardous waste and water are primarily associated with stormwater quality, and are addressed in Section 3.4, *Water Quality*, of this FEIS.

Alternative B

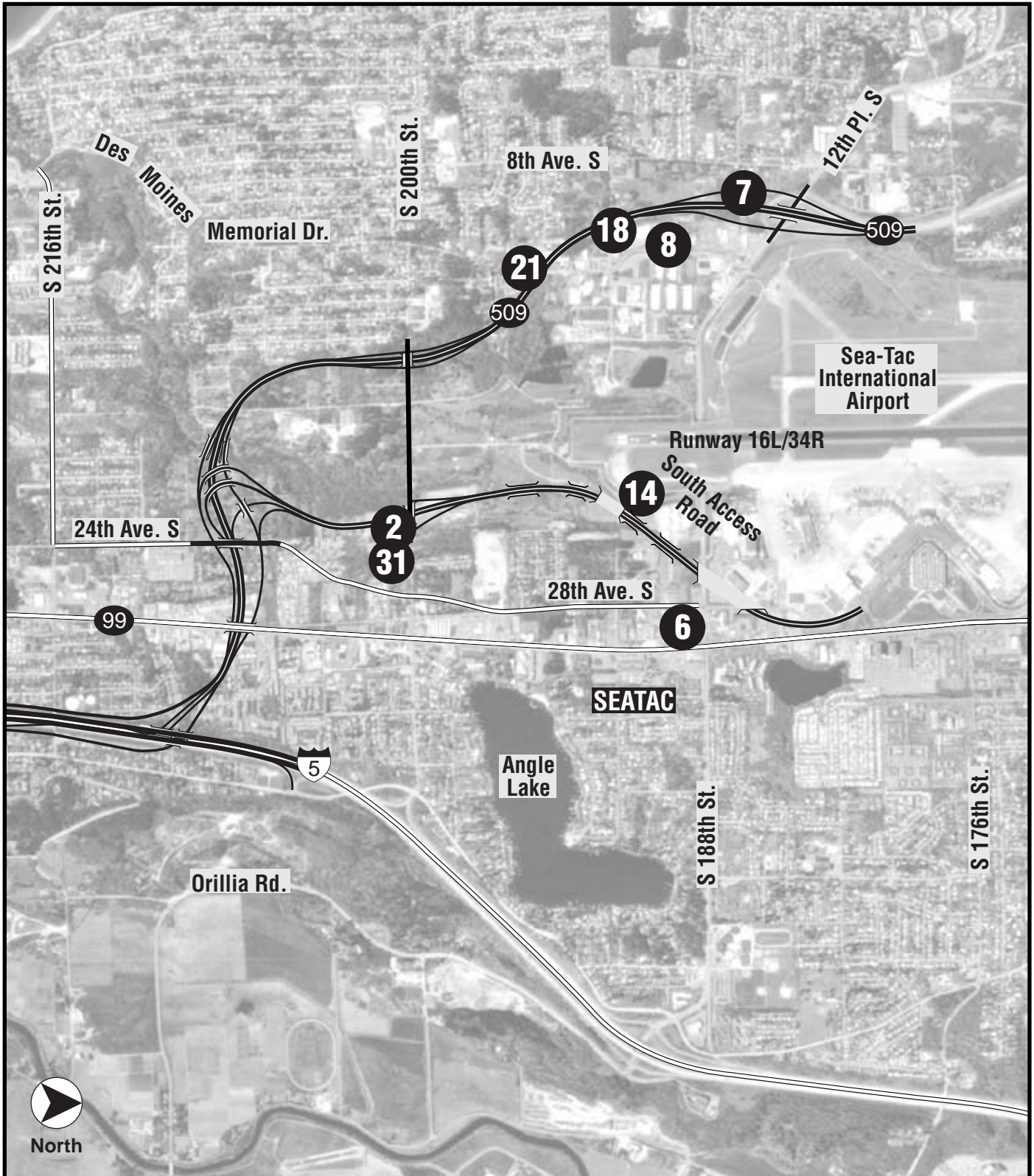
Under Alternative B, a total of 36 known or suspected contaminated sites could be affected by the proposed project. Of these, four sites are considered as substantially contaminated (Sites 2, S-2, S-3, and I-27).

One substantially contaminated site and seven reasonably predictable sites were identified in the vicinity of the SR 509 freeway extension and South Access Road west of South 188th Street. See Figure 3.13-1 for site locations and Table 3.13-1 for site identification. The substantially contaminated property is known as Battery Power System, Inc. (Site 2). This site is located within the proposed right-of-way, and the probability of encountering adverse environmental conditions during construction is high.

The building that formerly housed Battery Power System, Inc. (Site 2), could potentially create a construction liability because of the unknown potential or level of contamination that might exist. No record of soil or groundwater sampling was found to evaluate whether the former or current use is contaminating the area. Based on the site's historic use, contamination could include heavy metals, solvents, and grease and oil. This site would need further evaluation and sampling before construction.

Of the seven reasonably predictable sites, four (Sites 7, 18, 21, and 31) are located within the proposed right-of-way, and the remaining three are adjacent (Sites 6, 8, and 14).

Of the sites located within the proposed right-of-way, Foreman's Welding (Site 7) may be potentially contaminated with heavy metals, oil, grease, and glycol or antifreeze. The WSDOT-owned South 192nd Street property (Site 18) contains a tenant-owned residence. Trespassing and dumping has



0 1/4 1/2 3/4 1 MILES

Legend

SR 509/South Access Road Improvements

Bridge

Potential Hazardous Waste Site

FIGURE 3.13-1

Sites of Concern – Alternative B

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

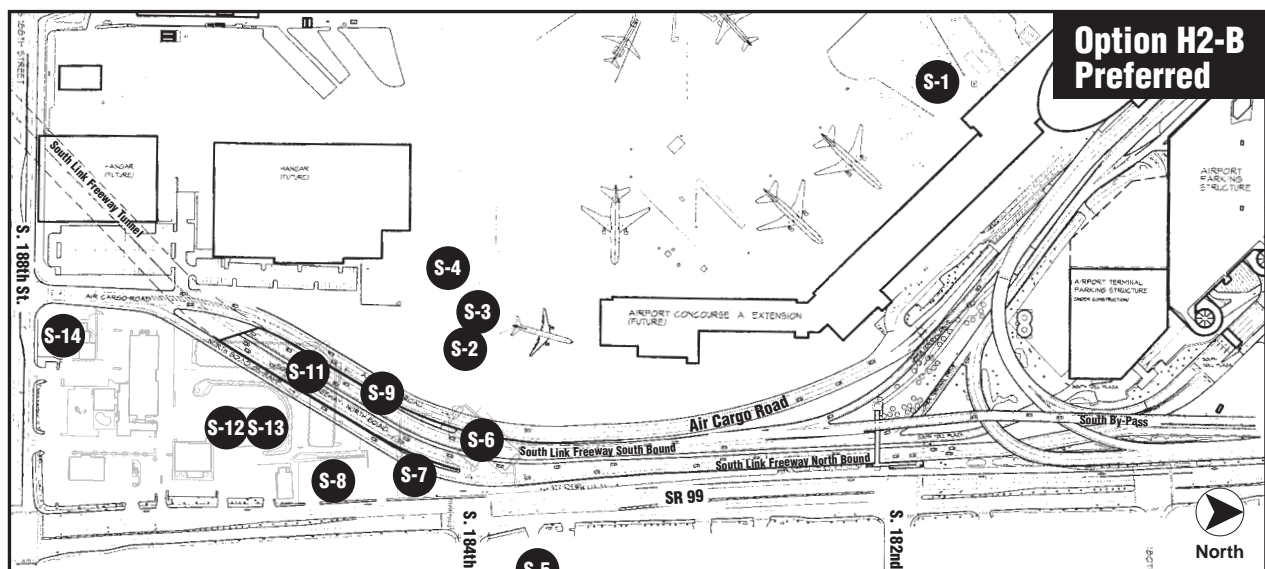
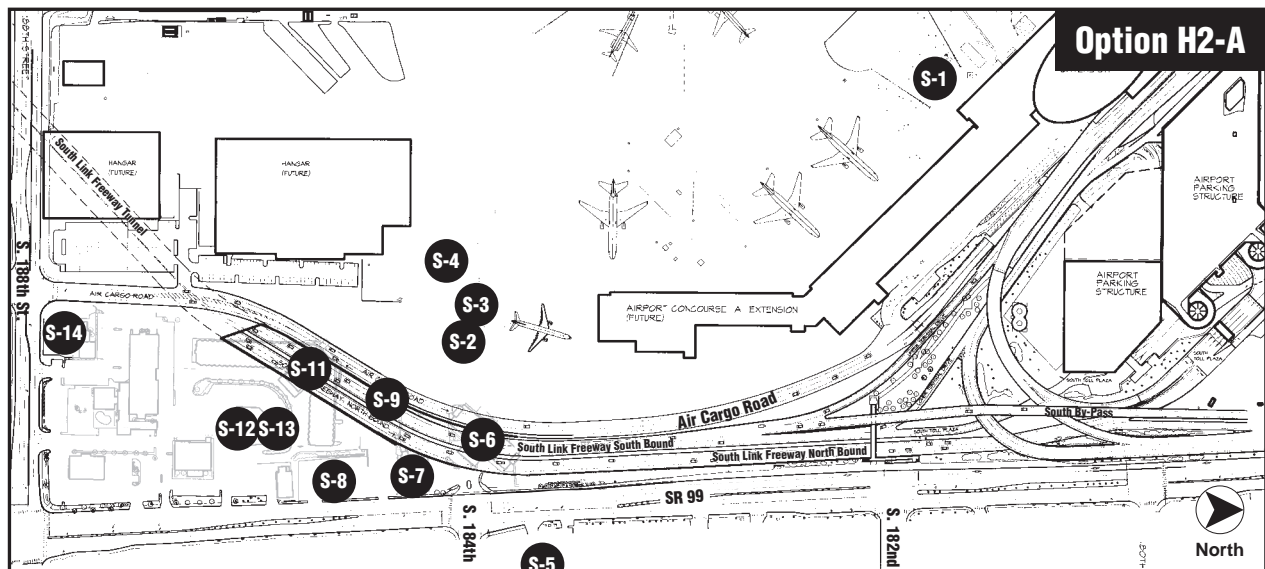
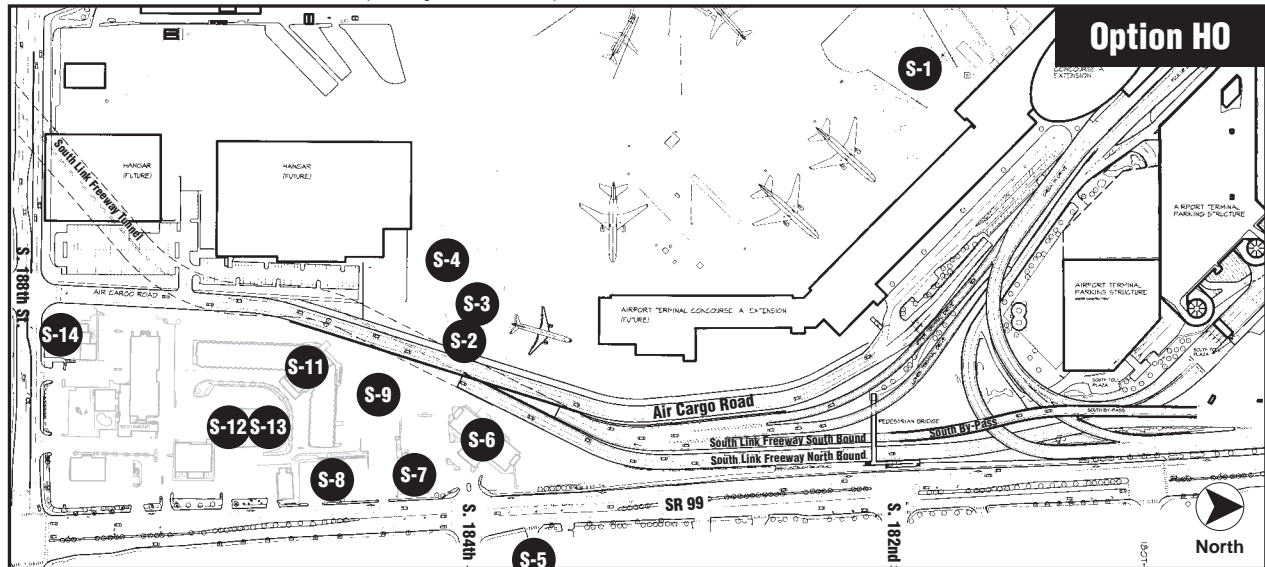
been documented along the northern portion of the property. The most common type of materials dumped on the property is household garbage; however, 55-gallon drums containing unknown materials have also been dumped. Tech-Marine Enterprises (Site 21), located near 19265 Des Moines Memorial Drive, is a machine shop that leases the adjoining WSDOT-owned property for parking. The large machinery parked at the site may have leaked fuels and lubricants. No information was available at Ecology for PAC Center (Site 31). PAC Center consists of an office and warehouse building.

Thirteen sites are located in the vicinity of the South Airport Link (Figure 3.13-2, Table 3.13-1). Two of the sites, known as Northwest Airlines Tank Farm (Site S-2) and Air Cargo Road (Site S-3), are considered substantially contaminated. The remaining 11 sites are considered reasonably predictable. The Northwest Airlines Tank Farm (Site S-2) is located in the proposed right-of-way for Design Option H-0. Air Cargo Road is located in the proposed right-of-way for Design Options H-0, H2-A, and H2-B. Five additional sites (Sites S-6, S-7, S-8, S-9, and S-11) are located in the proposed right-of-way of Design Options H2-A and H2-B.

Construction of the South Airport Link would require a major cut. This cut could potentially affect the Northwest Airlines Tank Farm (Site S-2) (Design Option H-0 only) and Air Cargo Road (S-3). The Northwest Airlines Tank Farm (Site S-2) has TPH contamination from Jet A fuel USTs. Free-floating product was observed in the perched layers of groundwater in the vicinity of the Northwest Airlines Tank Farm at approximately 30 feet bgs. This site is being cleaned up and cleanup might be finished before construction of the South Airport Link begins. Air Cargo Road (Site S-3), which encompasses the southeast corner of the Sea-Tac Airport, except for the area identified as the Northwest Airlines Tank Farm (Site S-2), is also contaminated with petroleum products including Jet A fuel and possibly Av Gas, as well as gas, oil-, and diesel-range petroleum, solvent contamination, and heavy metals (including lead). Extensive cleanups are in progress at this site. Large amounts of soil, both contaminated and uncontaminated would need to be segregated, removed, and disposed of appropriately if the cleanup at the Northwest Airlines Tank Farm and Air Cargo Road sites are not completed prior to construction of the South Airport Link.

The Shell Oil Service Station, also part of the Budget Rent-A-Car of WA-OR on International Boulevard (Site S-8) and the adjacent car rental businesses/Budget Rent-A-Car (Site S-9) reportedly had USTs, which creates a potential for total petroleum hydrocarbons (TPH) contamination.

The West Coast Gateway Hotel (Site S-6) and Airport Plaza Hotel (Site S-11) could have lead paint or asbestos. The West Coast Gateway Hotel (Site S-6) or the Sharp's Roaster and Ale House (Site S-7) could potentially have TPH soil and/or groundwater contamination, but the source would most likely be from offsite (RZA 1989).



0 100 200
Approx.
Scale in Feet

Legend

S-14 Potential Hazardous Waste Site

FIGURE 3.13-2

Sites of Concern – South Airport Link

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

The Pan Am Fuel Farm (Site S-1) site is the only one listed as having a potential air quality effect because of the methane concentrations found in the soil. This site is adjacent to the proposed project right-of-way, but construction could affect the movement and location of the methane pocket (Landau 1997). One additional site on Port of Seattle property associated with fuel farm contamination is the Delta Fuel Farm (Site S-4). This site is adjacent to the proposed project right-of-way and has extensive cleanups in progress. Sites 12, 13, and 14 are also adjacent to the project right-of-way but are not likely to be impacted by construction.

Construction of the I-5 improvements could require a cut adjacent to or through a portion of the Midway Landfill (Site I-27) (Figure 3.13-3, Table 3.13-1), which is a substantially contaminated site. The Midway Landfill was listed as a National Priority List (NPL) site in 1986 due to contaminated groundwater and air. The Midway Landfill, which operated from 1966 to 1983, was created primarily to accept demolition materials, wood waste, and other slowly decomposing materials, but other industrial wastes were also put in the landfill, including paint sludges, oily wastewater and sludges, alkaline wastes, and coolant. In 1985, combustible gas was detected in structures buried 3,000 feet down from the landfill. Contaminated groundwater was found beyond the landfill boundary.

Known groundwater contamination within the landfill included organic solvents, heavy metals, polychlorinated biphenyls (PCBs), and other organic and inorganic contaminants. In addition, there is potential contamination adjacent to the landfill. This might include contamination from migration of hazardous waste, contaminated groundwater, and/or off-gassing materials from the Midway Landfill into the proposed right-of-way for the I-5 improvements. In September 2000, EPA signed a Record of Decision (ROD) describing the final plan for long-term health and environmental protections at Midway Landfill. Under the ROD, the City of Seattle is required to continue to operate, maintain, and monitor existing environmental systems at the landfill. The City is required to sample groundwater from the site until groundwater cleanup standards have been met.

Because of the proximity of this property to I-5, the landfill's listing as an NPL site, and the potential for groundwater to flow towards I-5, potential impacts on the alignment are considered to be high. The primary problem presented by a cut in this area would be the volume of soil and municipal solid waste, both contaminated and uncontaminated, that would have to be excavated, segregated, removed, and disposed.

Fourteen reasonably predictable sites have been identified in the vicinity of the proposed I-5 corridor improvements. Of these, five sites (Sites I-4, I-5, I-9, I-23, and I-46) are of moderate concern because they are located close to the proposed project but have known impacts on the environment, primarily on groundwater. The remaining nine sites are of low concern because they

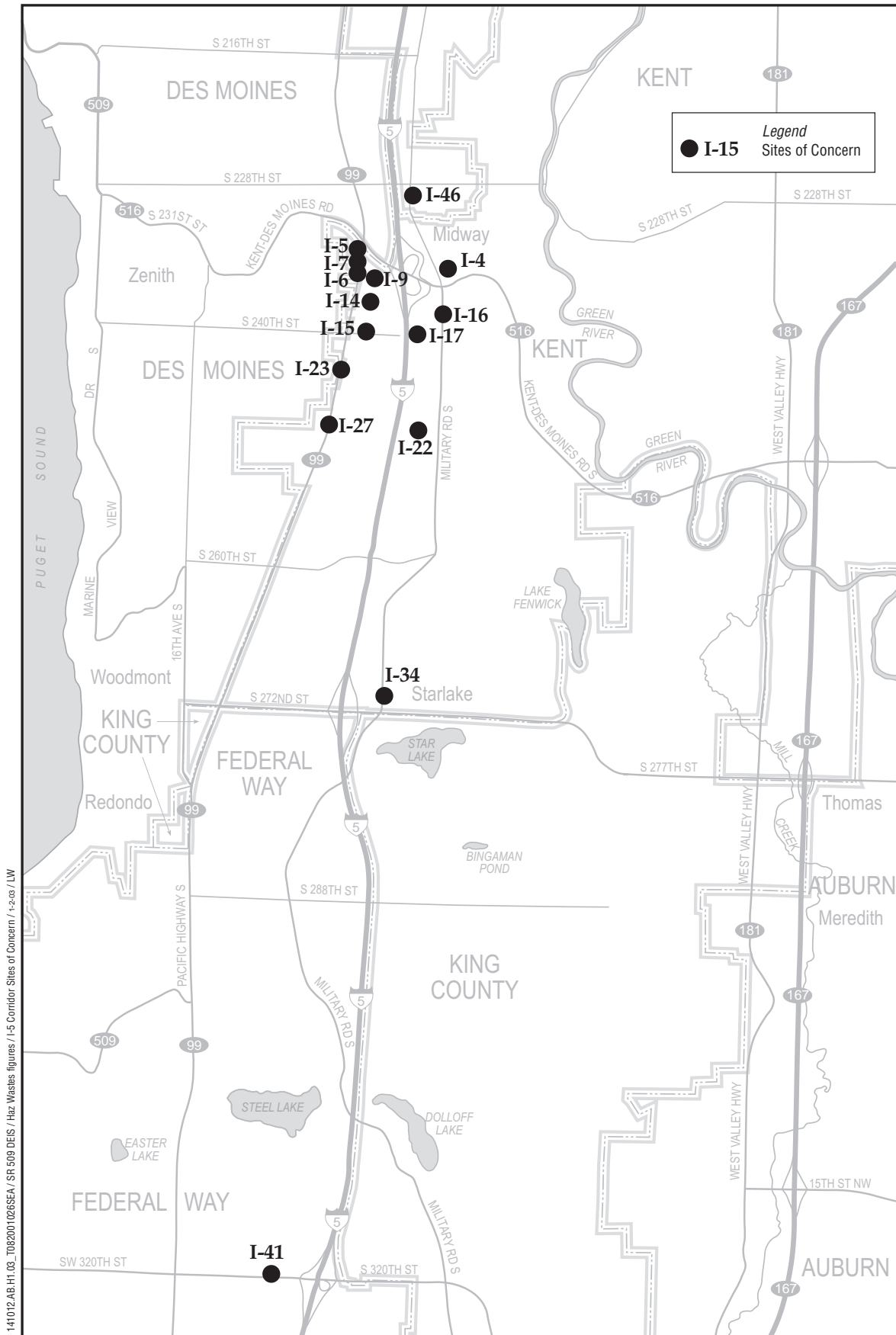


FIGURE 3.13-3

Sites of Concern – I-5 Corridor

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

are located at a lower elevation than or downgradient from I-5 or are located at a considerable distance.

Sites that contain contaminated soil or are adjacent to sites that contain contaminated soil that have migrated into the proposed roadway right-of-way could include Kent Highlands Landfill (Site I-4), Kings Dry Cleaners (Site I-5), Midway Auto Body (Site I-7), Gresham Transfer, Inc. (Site I-23), Midway Landfill (Site I-27), and 76 Gasoline Station (Site I-41).

Contaminated groundwater is known to be present at each of these sites. Contaminated soil and groundwater encountered during excavation or dewatering would require special handling prior to proper disposal.

USTs present risks should an unknown tank be encountered during excavations because of the explosive hazard and the potential of creating a spill if the tank is ruptured. Fuel storage tanks are known to exist at Midway Auto Body (Site I-7), Circle K Gasoline Station (Site I-34), and 76 Gasoline Station (Site I-41). Heating oil tanks are likely to exist at residential and commercial properties.

Alternative C2 (Preferred)

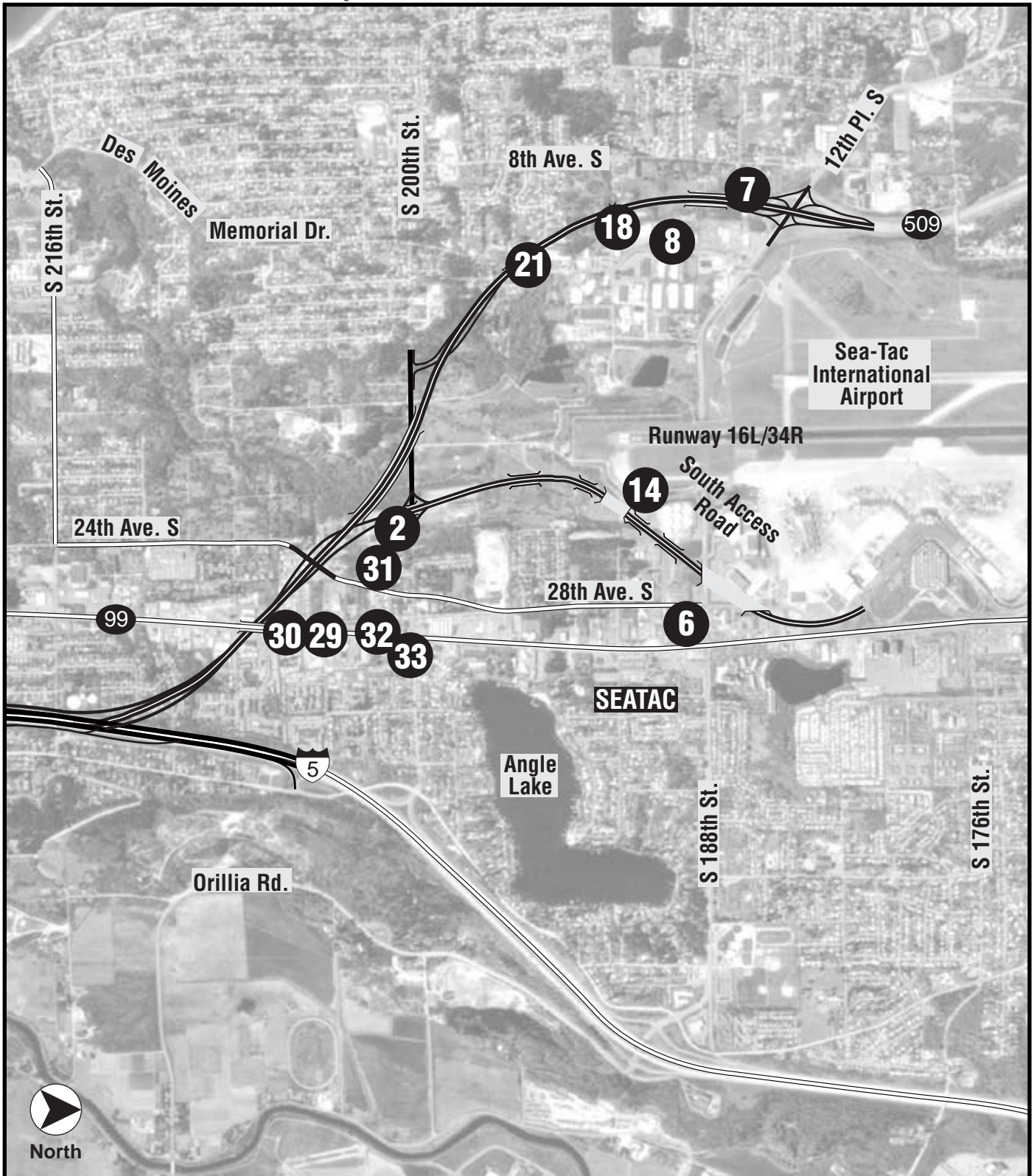
Under Alternative C2, a total of 40 known or suspected contamination sites could be affected by the proposed project. Of these, four sites are considered as substantially contaminated (Sites 2, S-2, S-3, and I-27). All of these are also affected by Alternative B.

Sites of concern potentially affected by construction of the SR 509 freeway extension and South Access Road (west of South 188th Street) include one substantially contaminated site and seven reasonably predictable sites identified for Alternative B, as well as four additional sites: Alamo Rent-A-Car (Site 29), Unocal #3964 (Site 30), Budget-Rent-A-Car of WA-OR (Site 32), and Gull Service Station #263 (Site 33) (Figure 3.13-4, Table 3.13-1). Each of these four sites is considered reasonably predictable and would likely be located within the proposed roadway right-of-way. These sites have the potential for soil and/or groundwater contamination from existing or previously removed fuel tanks.

Sites of concern that could be affected by construction of the proposed South Airport Link design options and I-5 corridor improvements are the same as described under Alternative B.

Alternative C3

Under Alternative C3, a total of 40 known or suspected contamination sites could be affected by the proposed project. Of these, six sites are considered as substantially contaminated (Sites 2, 25, 26, S-2, S-3, and I-27).



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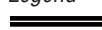


-  SR 509/South Access Road Improvements
-  Bridge
-  Potential Hazardous Waste Site

FIGURE 3.13-4

Sites of Concern – Alternative C2 (Preferred)

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

Sites of concern potentially affected by construction of the SR 509 freeway extension and South Access Road include three substantially contaminated sites: Battery Power Systems, Inc. (Site 2), affected by Alternatives B and C2 as well as Helen's Auto Sales (Site 25) and Pacific Auto Brake and Muffler (Site 26) (Figure 3.13-5, Table 3.13-1). Both pose a risk of encountering unknown USTs and related piping. The three substantially contaminated sites are located within the proposed right-of-way, and the probability of encountering adverse environmental conditions during construction is high. Alternative C3 could affect nine reasonably predictable sites. Five sites (Sites 7, 18, 21, 24, and 28) are located within the proposed right-of-way, and the remaining four sites (Sites 6, 8, 14, and 27) are adjacent.

Sites of concern that could be affected by construction of the proposed the South Airport Link design options and I-5 corridor improvements are the same as described under Alternative B.

3.13.4 Mitigation Measures

By anticipating and carefully planning for potential hazardous waste issues during design and project planning phases, major liabilities can be prevented or minimized. Where avoidance of a site is not possible, mitigation of construction impacts would be implemented. Mitigation for long-term operation impacts, such as contaminants in roadway runoff and accidental spills, are described in Section 3.5, *Water Quality*.

General Mitigation

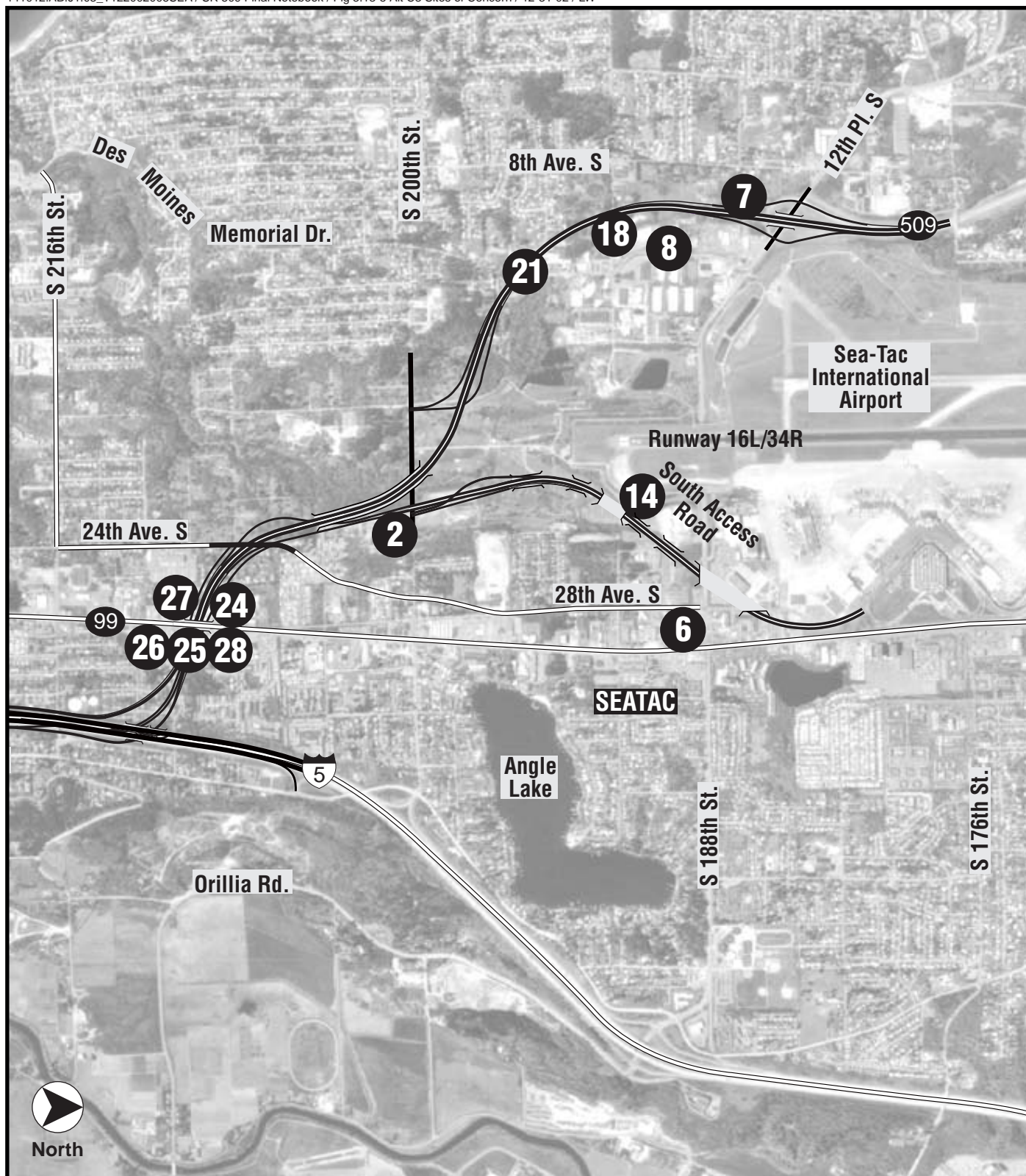
Many construction practices are general and occur whether contamination is present or not. These practices also are important for sites containing hazardous materials. Erosion control and spill prevention planning are two such measures.

Erosion Control

The Erosion Control Plan is an important tool for preventing the erosion of contaminated soil. The plan would be required to address stormwater diversion, use of stormwater conveyance, and covering hazardous waste stockpiles to control erosion of contaminated soils.

Spill Prevention, Containment, and Countermeasures Plan

WSDOT now requires the inclusion of a Spill Prevention, Containment, and Countermeasures (SPCC) Plan specification in all construction contracts. The contractor would use the plan to demonstrate its planning efforts for the prevention and response to spills and emergencies during construction.



0 1/4 1/2 3/4 1 MILES

Legend

SR 509/South Access Road Improvements

Bridge

Potential Hazardous Waste Site

FIGURE 3.13-5

Sites of Concern – Alternative C3

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

The SPPC Plan would be prepared in accordance with WSDOT Standard Specification #1-07.15. The plan would identify staging, storage, maintenance, and refueling areas and their relationship to drainage pathways, waterways, and other sensitive areas. The plan would also address spill prevention and containment, spill response, standby, on-site material and equipment, reporting, program management, and preexisting contamination, if any.

Building Demolition, Asbestos, and Lead-Based Paint

Generation of building demolition debris, asbestos, and lead paint wastes might occur at some sites. Preconstruction investigation and testing would be needed to determine the location and quantity of asbestos and lead-based paint waste so that these wastes could be appropriately abated prior to demolition. In addition, buildings containing lead-based paint would be sampled to determine the appropriate characteristics of the debris for disposal purposes. Mitigation for asbestos containing materials would include removal and disposal of asbestos-containing material prior to demolition.

Underground Storage Tanks

USTs and associated abandoned fuel lines, potentially containing product, are known to exist at a number of sites in the project area. Home heating oil USTs also might exist at residential displacements. Preconstruction planning and surveys to determine the existence of USTs would be essential. Planning would include contracting contingencies for removal and disposal of USTs and any associated contaminated soil.

Contaminated Soil and/or Groundwater Cleanup

Contaminated soil is present at a number of sites in the project area. Mitigation of contaminated soil would include preconstruction planning to define the areas where contaminated soil would be encountered, designing road cuts to minimize the quantity of contaminated soil that must be managed, and implementing viable cleanup alternatives for contaminated soil.

Potential options for mitigation of contaminated soil would include capping to prevent contact, removal followed by disposal or treatment, and determining alternative cleanup levels using *Interim Total Petroleum Hydrocarbon Guidelines* (Ecology 1997).

Contaminated groundwater is known to be present at a number of sites in the project area. Groundwater impacts could occur if dewatering is a necessary part of construction and might create long-term liability associated with property acquisition. Construction activities such as large excavations can create a migratory pathway or change the movement of contamination in the groundwater by introducing new contaminants or changing the hydraulics of

the area. Mitigation of contaminated groundwater impacts could be accomplished by minimizing treatment and discharge for groundwater generated during dewatering activities. An effective way to do this would be to limit excavation activities to low water table seasons.

Worker Protection

Worker protection would be accomplished by proper training of workers in the recognition and handling of hazardous waste and the proper use of PPE and hygiene techniques. The selected contractor would evaluate what level of PPE is required prior to commencing construction activities in known and potentially contaminated areas. Work with contaminated materials might require that cleanup workers comply with Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA) training regulations.

Air Quality

Potential air quality impacts associated with hazardous materials were identified for some sites in the project area. Preconstruction planning for potential air quality impacts would be essential. The planning would identify situations in which air quality impacts would be anticipated and develop measures to minimize or mitigate those impacts. Sites where contaminated dust could be generated would be monitored and dust suppression measures implemented. Venting with forced air, worker respiratory protection, and strict enforcement of no open flame regulations could be implemented to mitigate impacts from potential accumulations of dangerous or explosive vapors from contaminated soils and groundwater, as well as low oxygen atmospheres during confined space and tunneling activities.

Contamination of Stormwater Runoff

Preventing the contamination of stormwater runoff would be the most effective means of mitigation. At any of the sites where hazardous wastes are identified or anticipated, implementing a program to divert or prevent contact of stormwater with contaminated materials should be identified and implemented. A standard contract specification detailing the preventive actions that would be followed should be included as part of contract required submittals. Detailed descriptions of mitigation measures to prevent contamination of stormwater runoff are presented in Section 3.5, *Water Quality*.

Human Health

Public health and safety impacts would be a concern for all phases of the proposed project. Mitigation of human health impacts could be achieved through implementation of a public awareness program and public relations policies. Information would be provided to local citizen interest groups and

the media regarding programs implemented by WSDOT for hazardous waste protection.

Dust from excavation activities would be a concern because of traffic close to the project area. Access to the construction area would be restricted to construction workers. In addition, WSDOT now requires that the construction contract include a SPCC Plan specification to ensure that proper planning and handling procedures are followed to prevent and respond to a spill or fire. The SPCC would also lay out the planning coordination effort between WSDOT's contractor and the local fire departments, local emergency management, and any other concerned agencies.

Substantially Contaminated Sites

Air Cargo Road and Northwest Airlines Tank Farm

Construction would require a substantial cut through the Air Cargo Road site and Northwest Airlines Tank Farm area. The primary problem presented by these two sites would be the large amount of soil, both contaminated and uncontaminated, that would be segregated, removed, and disposed. Vertical walls would be constructed where feasible to reduce the amount of contaminated and uncontaminated material requiring excavation.

Construction would likely affect the bioremediation system installed at the former Northwest Airlines Tank Farm. Part of the preconstruction planning would include an update of the bioremediation progress to assess whether the contaminated soil adjacent to the site is cleaned up and how construction might affect the bioventing system in place. No further mitigation would be needed if Ecology considered the soil to be clean. However, removal or capping of contaminated soil would likely be the mitigation options available if the site does not bioremediate with the venting system currently in place.

WSDOT would coordinate with Northwest Airlines, the Port of Seattle, and possibly Ecology to ensure that stakeholders consider construction needs in the cleanup of Northwest Airlines USTs and Air Cargo Road. Coordination would be crucial to outline a plan for treatment, disposal, and construction timing to ensure that the independent cleanup of the Northwest Airlines Tank Farm is achieved.

Battery Power Systems, Inc., Building

The building that housed the former Battery Power Systems, Inc., business could potentially create a construction liability for WSDOT due to the unknown potential or level of contamination that may exist. No record of soil or groundwater sampling was found to evaluate whether former or current use is contaminating the area. This site would need further evaluation and sampling before construction.

Helen's Auto Sales and Pacific Auto Brake & Muffler

The properties operated by Helen's Auto Sales and Pacific Auto Brake & Muffler could create construction liability similar to that of the Battery Power Systems, Inc., building due to the unknown potential or level of contamination that might exist. The limited availability of historic information and current condition of the sites would require further investigation and possibly sampling of the properties if Alternative C3 is the chosen alternative.

Midway Landfill

Construction could require a cut through Midway Landfill or potentially contaminated soils adjacent to the landfill. The proposed I-5 improvements would extend 30 feet from the existing western edge of I-5 asphalt pavement. The current landfill cover system (comprised of layers of low permeability clayey silt/silty clay, a 50-mil synthetic membrane, a geonet drainage layer, one foot of sand and one foot of topsoil planted with shallow rooted grass), borders I-5 for approximately 2000 feet. The membrane liner is placed against the concrete barrier asphalt pavement. Refuse (municipal solid waste) is encountered approximately 15 feet from the edge of the membrane liner. As a result, large amount of soil, both contaminated and uncontaminated, would need to be excavated, segregated, removed, and disposed. The membrane liner would need to be repaired. The City of Seattle would be responsible for mitigation related to landfill impacts, including material excavation and disposal, repairs, and utility relocation. Proposed repairs would be approved by Ecology and King County prior to construction.

In addition, a gas extraction system consisting of a series of gas extraction wells (PD series) are located along the perimeter of the landfill cover system 3.5 to 5 feet away from the existing asphalt shoulder of I-5. The gas extraction wells would have to be reconfigured. Furthermore, in the northern portion of the landfill, two parallel 24-inch drainage lines are located less than 20 feet from the edge of the landfill cover. At least one of the drainage lines would need to be reconfigured.

In summary, potential mitigation activities of Midway Landfill resulting from construction activities that would need to be considered include:

- Geotechnical investigations and waste limit investigations
- Construction of a vertical retaining wall
- Odor control during excavation
- Repair of any damage to the existing geomembrane cover system
- Reconfiguration of the existing landfill gas collection system
- Reconfiguration of the existing drainage lines
- Proper disposal of municipal solid waste
- Proper disposal of hazardous waste

- Repair or replacement of any monitoring wells disturbed or removed during construction

Innovative approaches to cleanup and disposal could further reduce the amount of hazardous materials removal before and during construction. For instance, reconfiguration of the waste behind the retaining wall, but within the current footprint of the landfill, might eliminate the need for disposal of municipal solid waste.

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